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ABSTRACT

This study examined the variety of service delivery models being used to provide services to infants and toddlers with disabilities in nine communities across three states (Colorado, North Carolina, and Pennsylvania). Information was derived primarily from focus groups and interviews conducted with community early intervention program administrators, service providers, and families, and analysis of policies and interagency questionnaires completed by representatives of the Local Interagency Coordinating Council in each community. Analysis revealed six qualitatively different organizational models: (1) single-program oriented; (2) network of programs; (3) loosely coupled systems; (4) moderately coupled interagency systems; (5) strongly coupled interagency systems; and (6) a comprehensive system for all children. Each model is described in terms of overall organizational structure, amount and nature of interagency decision making, target population, and scope and nature of service resources. The two most influential factors that affected the development of specific models were state policies and the leadership within the community intervention system. In general, more comprehensive and coordinated service delivery models resulted in a broader array of services, better linkages, and greater individualization. Recommendations include policy direction from state administrators and training in interagency coordination. (Contains 50 references.) (DB)

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Early Intervention Service Delivery Models and Their Impact on Children and Families

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An Institute for the Study of Education, Health Care, & Social Service Utilization of Infants, Preschool Children, and Their Families

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Gloria L. Harbin & Tracey West

BACKGROUND

Many changes have taken place over the last few decades in the provision of services to young children with disabilities (Harbin, 1993; Meisels & Shonkoff, 1990; Simeonsson & Bailey, 1990). Services have evolved from the provision of a few specialized services provided to young children with disabilities, to the provision of more varied services not only to children, but to their families as well. In the years prior to the passage of Part H of the Individuals with Disabilities Education Act (IDEA), many developmental early intervention programs functioned fairly autonomously. In many communities there was little coordination between the developmental intervention program (e.g. gross motor, language, cognition) and other programs, agencies, or initiatives (e.g., health, social services, mental health, etc.) within the community. However, children with disabilities and their families often require services from a variety of providers and agencies. Since services for children were fragmented, too often the *burden* to locate and coordinate all relevant services rested primarily on the family (Brewer & Kakalik, 1979; Turnbull & Turnbull, 1978). Thus, an increased recognition of the importance of the transdisciplinary teaming of professionals (Bailey, 1989; Bruder & Bologna, 1993; Garland, McGonigel, Frank, & Buck, 1989; Gilkerson, Hilliard, Schrag, & Shonkoff, 1987; Haynes, 1976; Klein & Campbell, 1990; Linder, 1990; McGonigel & Garland, 1988; Woodruff, Hanson,

McGonigel, & Sterzin, 1990; Yoder, Coleman, & Gallagher, 1990) and the coordination of agencies and programs (Garland & Linder, 1994) emerged as a solution to the fragmentation of services.

Part C of IDEA (formerly Part H) requires the creation of "... a statewide, comprehensive, coordinated, multidisciplinary, interagency system that provides early intervention services for infants and toddlers with disabilities and their families ..." (Sec. 1431, (b)). A shift from an isolated intervention program to a comprehensive early intervention *system,* encompassing numerous resources, agencies, and programs was initiated by this revolutionary law (Harbin, Gallagher, Clifford, Place, & Eckland, 1993; Meisels & Shonkoff, 1990). Along with this shift to a comprehensive system of services came another major shift: a change from focusing solely on the child's needs, to focusing on the needs of the family as well (Harbin, 1993; Simeonsson & Bailey, 1990; Winton, 1986). These changes served to broaden the entire scope of early intervention (Dunst & Trivette, 1990; Gallagher, 1990; Kraus & Jacobs, 1990; Harbin, McWilliam, & Gallagher, 1998; Simeonsson & Bailey, 1990; Winton, 1986).

Previous efforts to describe service delivery models have focused almost entirely on the *single program* that provided developmental and therapeutic intervention to the child (i.e., cognitive, motor, social, self help and language activities) (Bricker & Veltman, 1990). Efforts to describe service delivery models also often focused on a single *element* of the model, such as the *philosophical orientation* – Piagetian, behavioral, diagnostic-prescriptive, etc. (Bricker & Veltman, 1990; Bagnato & Neisworth, 1981), the *location* of intervention – home

or center-based (Bailey & Wolery, 1992; Odom & Fewell, 1983), the *target* of intervention – child, family, etc. (Bricker & Veltman, 1990; Seitz & Provence, 1990; Simeonsson & Bailey, 1990), or the *process* of intervention – assessment, IEP, curricular strategies, rather than on the interaction of multiple components of the system (Simeonsson, Huntington, & Parse, 1980; Fewell & Sandall, 1986; Vietze & Coates, 1986; Bagnato & Neisworth, 1981; Goldstein & Turnbull, 1982.

PURPOSE

The purpose of this paper is to describe the variety of service delivery models being used to provide services to infants and toddlers in nine diverse communities across three states. Defining the major elements contributing to these system differences, and their impact on children and families, were integral aspects of this study. It is hoped that information on the service system models can assist community and state administrators in their efforts to identify their own model of service delivery and to develop more comprehensive service delivery systems, thus more closely achieving the intent of this federal law.

METHODS

The research for this report is *part* of a larger set of studies conducted by the Early Childhood Research Institute on Service Utilization (ECRI:SU). A team of researchers designed and conducted a group of studies that: (1) sought to describe the services provided to young children with disabilities and their families; (2) describe various aspects of service delivery; and (3) the multiplicity of factors that are believed to influence service delivery.

Multiple methods were used to collect data related to service provision and utilization at the state, community and program levels, including: service use protocols, scales, and questionnaires; analysis of public policy and budget documents; analysis of Individualized Family Service Plans (IFSPs) and Individual Education Plans (IEPs); interviews with 37 program administrators; focus groups with 45 families, 67 service providers, and important leaders of each community (N=60); and case studies of 75 children and families, as well as their primary service providers (N=49). The methods used to determine the service delivery models are described below.

Sample. Nine diverse communities located in three sociodemographically diverse states (Colorado, North Carolina, and Pennsylvania) participated in these studies. In each state, a high, medium, and low population density community was selected. Since the states varied considerably with regard to population, the result was nine different levels of population density divided into three broader categories (high, medium, and low). The nine communities ranged in size from a large urban environment with a population of 2,403,676 to a remote rural community with a population of 2,838. See Table 1 for a more descriptive portrait of the nine communities.

Data Collection. Information for this paper was derived primarily from the focus groups and interviews conducted with community early intervention program administrators, service providers and families, analysis of policies, and interagency questionnaires completed by representatives of the Local Interagency Coordinating Council (LICC) in each community. Data from these

multiple sources, were reduced and integrated into a data analysis matrix in order to provide descriptions of the service delivery model and process for infants and toddlers in each of the nine communities studied. This process is described below.

Table 1 Descriptive Portrait of Study Communities

	COLORADO			NORTH CAROLINA			PENNSYLVANIA		
	HI	MOD	LOW	HI	MOD	LOW	HI	MOD	LOW
Total Population	225,339	32,273	6,007	347,420	59,013	61,704	1,336,446	89,994	78,097
Total Minority (%)	10.5	13.9	25.1	28.6	19.9	5.7	13.1	2.5	0.6
% Child Poverty	9.5	19.8	16.4	14.3	17.7	12.9	17.1	21.0	18.6
Per Capita Income	$17,359.	$9,971.	$11,269.	$18,117.	$16,274.	$13,370.	$15,115.	$10,260.	$10,430.
Children in Single Parent Families (%)	16.4	28.5	23.8	23.0	20.0	15.0	23.9	16.7	16.4
Low Birthweight Rate (%)	6.4	9.3	15.8	8.6	7.7	6.0	8.0	6.0	6.1

Data Analysis Procedures. Service delivery model typologies were developed through an iterative process of data analysis. First, initial categories were developed, and transcripts from interviews with program administrators were coded using the selected codes. The categories consisted of broad components of service delivery (e.g., Child Find, assessment, IFSP development, curriculum, use of therapies, transition, etc.). If data did not fit into one of the categories a new category was created. Data were coded into all

relevant codes, thus allowing for multiple coding of a single portion of the transcript, for it was possible for a single entry to address more than one topic (e.g., assessment and service coordination).

Next, qualitative data from case studies and focus groups pertaining to the above service delivery categories were then integrated into the data analytic matrix. Thus, data now included in the data analytic matrix with regard to service delivery reflected the perspectives of parents, service providers, and program administrators. The triangulation (Yin, 1994) of these three perspectives combined to provide a richer and more complete picture of service delivery than any single perspective. Using the data analytic matrix, we examined the data for patterns in the similarities and differences across communities, comparing communities of similar size and communities within the same state. Through this analytic process of the individual elements of service delivery (e.g., child find, assessment), broader patterns of how services were delivered appeared to emerge. Central to these broader patterns was the level of involvement of the various agencies in decision-making regarding service delivery. Subsequently, a reduced set of categories was identified and data were entered into a new data matrix. This final step in the analysis led to the delineation of early intervention service system typologies. This final set of data analysis categories included: 1) focus of system (child or child and family); 2) target population; 3) array of services; 4) location of developmental intervention; 5) philosophy of curriculum; 6) program or system oriented; 7) organizational structure; 8) personnel; 9) characteristics and features of system; 10) degree and type of coordination. The

designation of the service delivery model was sent to community representatives to verify the accuracy of model description and assignment.

Background of Analysts. The background of the analysts is relevant in qualitative analysis because their perspective is brought to the interpretation of data. The principal investigator of this study brings with her 15 years experience in research on early intervention policy, service delivery and interagency coordination, preceded by work as a teacher of young children with disabilities. In addition, Dr. Harbin has spent many years in providing technical assistance to state and local policy-makers in setting up service systems that reflect recommended practices. The research assistant has 10 years of experience in working with young children both with and without special needs, and with their families. Both of these individuals are familiar with the literature regarding recommended practices. These recognized practices served as standards by which elements of the service delivery process and model were examined. (See for example: Dunst & Trivette, 1990; McWilliam, 1992; McWilliam, Tocci, & Harbin, 1995; McGonigel, Kaufmann, & Johnson, 1991; Meisels & Provence, 1989; Odom & McLean, 1993; START, 1987; Wolery, 1989).

FINDINGS

Three major findings emerged with regard to service delivery models. *First*, it became apparent that service systems were *organized* somewhat differently across the nine communities studied, revealing *qualitatively* different service delivery models. *Second*, further exploration into *why* the systems were organized differently revealed two major factors that appeared to influence the

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development of these models. *Third*, data indicated a somewhat differential *impact* of the various service delivery models on children and their families. Each of these is discussed below.

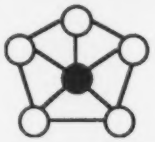
Service Delivery Models: How Services are Organized

In a companion study, Local Interagency Coordinating Council (LICC) representatives from each community used a ten point rating scale, with "1" representing no coordination and "10" representing total coordination, to rate the amount of interagency coordination with regard to services for infants and toddlers. These numerical ratings ranged from 6.2 to 8.7 with a mean of 7.2, indicating the *perception* of a substantial amount of coordination across the nine communities studied. However, when qualitative data from parents, service providers and program administrators were integrated and analyzed, a more complex picture emerged with regard to the variability in the *nature and amount* of interagency coordination across communities. Qualitative analysis revealed four interacting elements which influenced the amount and scope of interagency coordination in each community. These elements include: (1) the overall *organizational structure* that guides service delivery; (2) the amount and nature of interagency *decision-making*; (3) the scope of the target *population*; and (4) the scope and nature of *service resources* that are utilized. Thus, these elements combined in various ways, resulting in six *qualitatively different* service delivery models which are presented in Table 2 and described below.

Table 2
Infant & Toddler Service System Models

	Single Program	Network of Programs Beginning to Coordinate	*Loosely Coupled* Primary Coord. with Intervention Providers Secondary Coordination with Other Agencies
Visual Depictions:			
Organizational Structure:	Single intervention program provides most services and coordinates when necessary with other programs Links to other programs are weak to moderate Arrangements/agreements are usually informal	A network of programs from multiple agencies that plan and implement programs somewhat autonomously, but have recently established a local interagency coordinating council (LICC) and are beginning to do some cooperative and coordinated planning; system and services dominated by lead agency Agreements and arrangements are usually informal, but many have formalized a few agreements or procedures	Primary coordination occurs between and among two or more intervention programs designed to provide general developmental intervention either to children of all disabilities or to children with particular disabilities (e.g., language, motor, etc.) Local interagency coordinating council (LICC) is instrumental in cooperative design of intervention procedures/components to be used across all providers (e.g., IFSP, assessment, intervention). Focus is on educational intervention process more than on total coordination of educational intervention with health and welfare programs
Decision - Making:	Lead agency makes decisions, rarely asks other agencies for input, but primarily informs Lead agency dominates decision making	Lead agency dominates decision making. Other agencies participate so that they can be informed of decisions/policies of lead agency. Make some cooperative agreements around Public Awareness. Decisions often focus on dividing up service responsibilities.	The multiple intervention programs provide leadership/direction for LICC decisions (educational intervention predominates). Other agencies contribute, but secondarily.
Scope of Target:	Disability oriented in terms of population served	Disability oriented in terms of population served	Disability oriented in terms of population served
Scope of Resources:	Array consists primarily of those programs designed for disabled children	Focus of array and links depends upon the nature of the lead agency: poverty, disability, health, education	Focus of array primarily those programs designed for disabled children

Table 2 (continued)
Infant & Toddler Service System Models

	Moderately Coupled **Multi-Agency System with Some Leadership Coming from Lead Agency**	*Strongly Coupled* **Multi-Agency System-Leadership and Decision Making Dispersed Among Agencies**	**Comprehensive System for All: LICC Is Lead Agency for Comprehensive and Cohesive System for All Children**
Visual Depictions:			
Organizational Structure:	Lead agency or core group of agencies facilitates coordinated planning and service delivery among multi-agency group which focuses not only on educational intervention but to some extent on the health and welfare needs A formal LICC has developed formal interagency procedures for service delivery	LICC chair, lead agency or core group of programs/agencies facilitate coordinated planning and service delivery. Many or most intervention activities are cooperative endeavors Multiple educational intervention programs work closely as if on same staff or part of single program Works like a well-operating machine	LICC is composed of a broad array of child and family services All programs and providers (public and private) share common values and have participated in planning equally System is the focus - all programs are designed to go together to form a cohesive whole Grants written to supplement what public agencies are not funded to do Use of a family center for ongoing coordination and co-location of programs
Decision - Making:	Agencies contribute fairly equally to decision making. However, leadership and direction come from lead agency.	Strong cooperative LICC is the vehicle for all participants to have equal say. Private programs and providers are also integrated in decision making	Cooperative, equal decision making
Scope of Target:	Population served can be disability oriented or disability and children at-risk	Population served can be disability oriented or include children at-risk but some activities focus on all children	Population addressed is all children and their families
Scope of Resources:	Array of programs designed to meet not only educational needs of child but health and welfare needs of child and potentially family needs as well	The array of programs and resources focuses on meeting educational, health, and welfare needs of children and their families	Comprehensive array including specialized and natural community programs and resources

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Single-Program Oriented. This model is most similar to the service delivery models existing prior to the enactment of Part C of IDEA. A single developmental intervention program focuses on addressing the cognitive, social, language, and motor needs of the child. Interventionists in these programs seldom see family needs as part of their domain. They most often work one-on-one with the child, primarily using a direct teaching approach. Occasionally, the interventionist will enlist the parent's help by teaching the parent (usually the mother) some particular educational activity with the child.

In the single-program oriented service delivery model, all other programs are viewed as supplementary to the program that provides developmental intervention. The interventionist recognizes that the child may have medical needs or that the family has housing needs, but these issues are seen as outside the focus of the early intervention program. There might be some instances in which the developmental interventionist feels the need to converse with a professional or administrator in another agency (e.g., the Health Department); however, these interactions and arrangements with professionals from other agencies are almost always informal in nature. Since the interventionist spends most of his or her time with the child, little time is available to work and coordinate with other professionals.

In a single-program oriented model, the target for service delivery is children with identifiable disabilities or developmental delays. Therefore, the array of services consists of those services provided by the developmental intervention program and perhaps only a few other specialized programs that are

designed primarily for children with disabilities. As a result, the services are specialized and usually offered in segregated settings when not provided in the child's home.

Network of Programs. In this model, a network of programs from a variety of agencies (e.g., health, social services, mental health) has begun to meet together and engage in some cooperative planning. In many instances, the members of this group are trying to determine how to work together, as well as trying to decide the appropriate focus of their activities. This network often begins by focusing its efforts on some cooperative agreements around public awareness and reciprocal referral procedures. In some communities, the product of these efforts is a cooperatively developed and funded brochure, informing the public about the existence of various services, their location, general information about the services they provide, and the appropriate phone numbers for each program or service agency.

In a Network of Programs model, each agency or program continues autonomously to plan and carry out its own services; however, each becomes more *aware* of the services provided by the other agencies as well. The informal linkages and relationships are strengthened, and as a result, this Network of Programs may develop some formal agreements as well. However, since these agency representatives are accustomed to functioning autonomously, their first efforts at cooperative planning often focus on dividing service responsibilities in order to eliminate overlaps and to operate more efficiently.

The Network of Programs primarily is interested in serving children with

disabilities, and the membership of the group depends on the background of the lead agency and the programs with which they have the most natural linkages. For example, if the lead agency previously served children in poverty, then participating agencies are likely to be those programs that also served children in poverty (e.g., Head Start, Even Start, and the Health Department). If, however, the developmental intervention program is one that was developed for children with mental retardation (e.g., an ARC, formerly the Association for Retarded Citizens program), the program is likely to invite other categorical programs for children with disabilities (e.g., United Cerebral Palsy and other programs or clinics that provide specialized services and therapies for children with disabilities). The lead agency (the developmental intervention program) still dominates the decision-making by setting the agenda and laying out the parameters regarding the choices and decisions to be made by the group. Accordingly, the Network of Programs recognizes the lead agency as the responsible agency for abiding by the law and making things work. Other agencies are seen as supplementary to service delivery.

Loosely Coupled System. When multiple programs form themselves into a single, broader organization or system, these newly formed organizations range in how cohesive or how tightly they are bound together. The phrase "loose coupling" was first discussed by Glassman (1973) in the context of biology and then by March and Olson (1975) and Weick (1974, 1976) with regard to organizations in general, and educational organizations in particular. In general, these authors delineated several characteristics of such systems: 1) influence is

slow to spread among programs, 2) lack of coordination or slow coordination, 3) absence of regulations, 4) planned unresponsiveness, 5) independence, 6) decentralization, and 7) absence of linkages. The authors of this paper thought that the concept of coupling and the degree of coupling was useful in describing the complexities and nuances of interagency coordination among human service agencies. The authors used the characteristics described previously to distinguish four different levels of coupling of programs within systems, ranging from loosely coupled to a cohesive system for all children.

In this model (i.e., Loosely Coupled System), once again, developmental intervention with the child remains the focus of service delivery. However, a Local Interagency Coordinating Council (LICC) or group that has been meeting over the course of a few years is in existence and the efforts of this group have moved from public awareness and streamlining the referral process to cooperatively designing and implementing some specific components of the intervention process, (e.g., conducting multidisciplinary assessments). Other participating agencies, such as the Health Department, assist with developmental intervention which still focuses primarily on the educational needs of the child, and which is still viewed as the responsibility of the lead agency (the developmental intervention program).

Under this type of system, some communities maintain multiple developmental intervention programs. These can be private or quasi-private programs which often initially served children with particular types of disabilities (e.g., United Cerebral Palsy or ARC), and which once also functioned

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autonomously. In some cases these programs have received state funds, thus obligating that their practices be based upon state requirements. As part of a loosely coupled system, these developmental intervention programs agree to relinquish some of their autonomy in order to meet new federal and state guidelines. The Local Interagency Coordinating Council (LICC) becomes the mechanism to facilitate the agreement among programs in order to ensure that all assessments are conducted according to required procedures and that the individualized plan developed by various programs is referred to as an IFSP (Individualized Family Service Plan). Each program continues to use those assessment instruments and procedures which always have been in place, unless there is an interagency assessment process in which all programs participate. Similarly, each developmental intervention program often designs its own IFSP format. Rarely do other agencies (e.g. Health, Social Services, etc.) participate in the development of the IFSPs or the selection of needed resources and placements for the child or the family.

Moderately Coupled Interagency System. As noted earlier, Glassman (1973), March and Olson (1975), and Weick (1974) presented the idea that there was a continuum regarding the amount of coupling among programs in a system. To that end, this model possesses a greater amount of coupling with regards to the characteristics outlined by Weick (1976) that are listed above. The programs in this model exhibit stronger connections than the loosely coupled system described previously. In this model a local interagency council has cooperatively developed formal service delivery procedures. Agencies other than those that

provide developmental intervention (e.g., Health, Mental Health) are seen as possessing an important perspective for planning the intervention system and as holding resources important to contribute to intervention for the child and his family. In the moderately coupled system, several agencies are seen as having an important role – not only the lead agency. Many times the lead agency continues to chair the interagency council, but the agenda is shaped and leadership provided by a core group of three or four individuals from different agencies. Agencies contribute fairly equally to decision-making. As a result, the array of programs in this model includes those designed to meet not only the educational needs of the child, but his or her health and welfare needs as well. This interagency model also recognizes and includes programs and services to meet some of the family's needs.

Strongly Coupled Interagency System. This model exhibits a higher level of connectedness and cohesion among agencies than the two previous models. In this model, several agencies are seen as responsible for coordinated planning and service delivery. The chair of the local interagency council can be a representative from any of the agencies and is usually selected on the basis of his or her leadership skills, not because he or she represents a particular agency. In some instances, the chair of the local council rotates yearly from one agency to another.

Many or most intervention activities in a Strongly Coupled Interagency System are cooperative endeavors with each agency playing an equally important role. All agencies participate in discussions and share common

understandings of such terms as screening, family-centered practice, inclusion, and service coordination. The service delivery system works like a well-oiled machine. Individuals from different programs work closely, as if they were part of a single program. Private programs and providers also are integrated into the cooperative decision-making and service delivery processes.

The array of programs and resources in this model focuses on meeting the educational, health, and welfare needs of children and their families. The population served includes children with disabilities, but often includes children at-risk for developmental delay as well. In this model, the interagency council also has begun to focus some of its activities more broadly on all children within the community. The development of a Family Center to be used by all families, or a Health Fair, in which screening for developmental-delay is only part of the event, are examples of this broader focus. Perhaps the Health Fair includes a variety of games or a puppet show to entertain the children, along with booths or stations that are designed to inform parents about the variety of useful resources within the community that are available to enhance their child's development and to facilitate family functioning.

Comprehensive System For All Children. This model is different from the previous model in two important ways: 1) the scope of the population to be addressed and hence the number and array of agencies that are involved; and 2) organizational structure.

In this model the participants plan a system of services for all young children and their families within the community. This philosophy of universal

services recognizes that all children and families belong to the community, and thus it is the community's responsibility to support and facilitate the development of all children and support all families in this endeavor.

Individuals in these communities believe that providing universal services will result in four important consequences. First, children in need will be identified and receive services as soon as possible (early identification). Second, because all children receive services, developmental problems can be minimized or avoided (prevention). Third, stigma for receiving service is eliminated, because it is viewed as natural in the community to take advantage of resources; there is nothing wrong with help-seekers, help is their right and to their advantage. Fourth, this model makes it easier to access natural settings, resources, and activities. As a result of this broader vision of the service system, more agencies and programs are involved in addressing the scope of needs of all children and families within the community. This model also often includes services from programs or organizations that are clearly embedded in the larger community (e.g., Inter-Faith Council), but which are usually not included in the more disability-focused service delivery models discussed previously.

The second major difference between this model and the strongly coupled system lies in the organizational structure of this endeavor. In this model, the local coordinating council is considered the lead agency, and often contains a broader representation of the community (e.g., business sector, city government, etc.). In addition to operating as the lead agency for service planning, the group might also receive funding, making it also the fiscal agent at times. The group

has visibility within the community, often having a formal name (e.g., Partnership For Children) and is recognized as the primary force and vehicle for meeting family needs even as individual programs are seen as supplementary and supportive to the cause. In order to maximize resources, all programs and participants participate cooperatively in decision-making. In order to supplement the community services (e.g., development of a Family Center), the council plans and writes grants to foundations, state agencies, and federal agencies for demonstration projects. In addition, when one of the local agencies must submit a grant to its funding agent, the local council has as much or more input into the design and conceptualization of the grant as the submitting agency.

This comprehensive approach requires community acceptance and support, as well as strong linkages between traditional public agencies (Health, Education, Developmental Disabilities, and Social Services), the business community (e.g., Chamber of Commerce), and the local governmental officials (e.g., Town Manager, Mayor, etc.). It also requires a group of cooperative leaders that have the skills to build bridges between groups and constituencies and to develop working teams.

Factors Most Influencing the Development of Specific Models

The service delivery models appeared to be shaped by a number of interacting factors, including the values of the community, the history of service delivery, the geography, and the resourcefulness of community leaders. However, the two *most influential* factors seemed to be the state policies and the leadership within the community intervention system. Important aspects of each

of these two factors are discussed below.

State Policy. The collective wisdom of many professionals is that interagency coordination is more easily accomplished in smaller communities where everyone knows everyone else and where people are used to wearing multiple hats. Indeed, in a comparison study, which sought to measure the similarities and differences between agencies on 10 different dimensions (e.g. philosophy, program goals, structure of agency, management approach, policy development, etc.), the three lower population density communities in our study perceived closer relationships among agencies on the 10 dimensions than did their counterparts in the moderate and high population density communities. This might lead one to assume then that the most coordinated service delivery models might be found in the smaller study communities. However, examination of Table 3 indicates that this is not the case. Numbers 1 through 6 in this table correspond to the continuum of service delivery models presented earlier in Table 2, with "1" representing the narrowest and most insular Program model and "6" representing the most coordinated model, the Comprehensive Interagency System for All Children and Families. Data in this table seem to indicate that there can exist similarities among the way agencies carry out their responsibilities in small communities, but that these similarities do not necessarily lead to the development of a strongly coordinated system of services.

However, when the models are examined in light of **state** differences, some patterns emerge. Table 4 indicates that the 3 communities in North Carolina have similar models and that they are some of the more coordinated

service delivery models in the study. On the other hand, the Pennsylvania communities also have similar models, but they exemplify the least coordinated models. These observations would seem to indicate a possible link to state policy. However, at first glance, the spread of the communities in Colorado across the coordination continuum might argue against a link to state policy. Interestingly, an examination of state interagency policies, structures, and decision making processes was illuminating and did indicate a link between state policy and processes and local service delivery models.

Table 3 Comparison of Service Delivery Models by Population Density

	1	2	3	4	5	6
High		1	1	1		
Medium	1				1	1
Low	1	1		1		

Table 4 Comparison of Service Delivery Models by State

	1	2	3	4	5	6
CO	1		1			1
NC				2	1	
PA	1	2				

North Carolina has developed an interagency structure at the state level which is similar to that of Matrix Management. In this approach, the Department of Human Resources serves as the overall lead agency, ensuring that all components of service delivery are operating smoothly. However, other agencies have what state policy-makers term "coordinative responsibility" for

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various components of the system (e.g. assessment, service coordination, etc.). For example, the Health Department is responsible for ensuring that service coordination for individual children and their families is provided according to the state policies. However, the Health Department is not responsible for providing all service coordination. There are multiple providers of these services from a variety of agencies. Thus, a particular state agency (e.g., Health Department) is responsible for ensuring that all providers are properly trained and are carrying out their responsibilities. These coordinative agencies feel responsibility in much the same way that a lead agency might. Therefore, at the state level in North Carolina, there are multiple agencies with *responsibility and ownership* for the success of implementation. This approach (i.e., matrix management) requires a coordinated approach to service delivery and resulted in a detailed interagency agreement, in which the *process* of developing the agreement was as important as the document itself. The process allowed and facilitated all participants to develop a common understanding of important concepts (e.g., family-centered) as well as service delivery processes.

In addition, there is a working group of state, regional and local policy makers who meet regularly to examine issues of policy and implementation. This group also includes parent and State Interagency Coordinating Council (SICC) representation as well. Furthermore, there are regional Technical Assistance Teams which are made up of individuals representing the expertise of various agencies and together provide assistance to localities regarding implementation of the law. Another important body, the State Interagency Coordinating Council

(SICC), is seen as independent of the lead agency. Within the decision-making process of this group, agencies have no more influence than do other members of the state ICC. Finally, the state interagency agreement mandates two coordinating structures at the local level: 1) a local ICC to develop and implement a coordinated *system* of services; and 2) a Consortium which is a local interagency group responsible for coordinating all steps of the system entry process for individual children and their families. The Consortium determines eligibility, coordinates assessments, develops Individualized Family Service Plans (IFSP), and assists in selecting placements for individual children.

The state interagency structures facilitate interagency planning, policy development and technical assistance to localities. The emphasis of state policy on interagency coordination and the specificity of those policies have resulted in shared ownership of service delivery. Consequently, the three North Carolina communities have developed more comprehensive and coordinated service delivery models than most of the other communities in the study.

Conversely, examination of **Pennsylvania's** state policies and organizational structure reveals some substantial differences. First, state agencies act autonomously when developing policies, and consequently so do local agencies. The state lead agency for Part C (the Infant and Toddler program) is primarily responsible for the development of intervention policies, and there is little, or no cooperative planning with other state agencies. The local programs funded by the state lead agency are seen as primarily responsible for local implementation and service provision and there is little cooperative planning

at this level as well. The state lead agency negotiates agreements with individual agencies. State policies at the time of this study did not require or encourage coordination of services at the "system" level, nor did they require the development of LICCs. The chair of the State ICC works closely with the lead agency in developing the agenda for the state ICC meetings. The ICC subcommittees are less involved and less influential in shaping service delivery than their counterparts in North Carolina. Pennsylvania's policies and structures, therefore, set the stage for a more insular and less coordinated approach to planning and policy development at both the state and local levels.

Interestingly, examination of Table 4 reveals that the service delivery models in **Colorado** span the continuum with regard to the degree of coordination. As mentioned earlier, one might think that this demonstrates no links with state policy. However, the variance in service delivery models for the three communities in Colorado appears to be related to an *absence* of written state policy. The state lead agency in Colorado enters into some cooperative planning with other state agencies. However, the lead agency provides leadership and direction for these coordinated planning endeavors. The state lead agency has developed an intra-agency work group to coordinate the various initiatives within the agency that focus on young children. The lead agency works with the State ICC chairs to set the agenda and guide the work of the State ICC. Therefore, the structure at the state level is a loosely coupled system. However, the lead agency in this state has a history of *encouraging* local interagency coordinated planning and service delivery through providing funds

for demonstration programs since 1978. In addition, the lead agency requires medium to larger communities to have an LICC and demonstrate interagency coordination in order to receive Part C (of IDEA) funds. Coordination is encouraged in the more rural communities, by providing technical assistance to individual localities. Thus, the level of coordination in the service delivery models in Colorado seems to be associated with a lack of written policy, a loosely coupled interagency structure at the state level, and by an emphasis of state policy makers on the importance of coordination. As a result of this combination, one of the communities was unfettered by written state policy, but encouraged by the state emphasis on coordination and was able to develop local structures and processes based on able local leadership. However, another community, also unfettered by written policy, had very different results – an insular and more traditional service delivery model.

These three states and the service delivery models for the study communities within these states seem to indicate that the written *policies* in conjunction with the *structures* set up at the state and local level, as well as the *messages* conveyed by policy makers appeared to play some role in influencing the nature of the service delivery model developed at the local level.

Leadership. The skills and the knowledge of Infant and Toddler program and system leaders appeared to be a significant factor in determining the nature and scope of the service delivery model as well. In those communities where the service delivery models were more comprehensive and coordinated, leaders shared several qualities.

First, these leaders had a broader and more *comprehensive vision* of the service system (Garland & Linder, 1994; Harbin, et al., 1993). They put together an array of services and resources that spanned the public and private sectors, and were designed to meet not only the educational needs of the child, but the health, recreational, and welfare needs of children with disabilities and their families as well. Successful leaders were knowledgeable about *best practice* with regard to multiple areas of service provision (e.g., family-centered, inclusive, and assessment practices). They established a philosophical base for the service system based upon this knowledge, and communicated elements of this philosophic base to staff, setting expectations for staff to utilize recommended practice in interactions with children and families. These leaders also were *resourceful* and *flexible*. They sought all available resources within the community and some of them went to outside sources, such as grants, to bring new resources to the community in order to increase service options. In addition, successful leaders were *bridge-builders*. They communicated well and established good relationships with families, their own program staff, staff from other agencies, other program administrators, and broader community leaders (e.g., Mayors, civic leaders, business leaders, media, etc.).

Impact of the Service Delivery Models

Despite the existence of a federal policy to guide service delivery, there is considerable variation in service delivery models. Analysis revealed that different service outcomes (e.g., percentage of children served, needs of children and families met) seemed to be associated with different models of service delivery.

In general, findings indicate that the more comprehensive and coordinated the service delivery model, the broader the array of services, the better the linkages between programs, the greater the individualization of services and hence, the higher the likelihood of meeting the diverse needs of children and their families. In the three most coordinated service system models, staff tend to use practices that are recommended by experts in the field (e.g., family-centered, inclusion), and leaders use these practices to guide recruitment, hiring, training, and supervision of staff.

Conversely, the service delivery models that were associated with less positive outcomes (e.g., not meeting needs of children and families, families frustrated by the system) were more insular, had a narrower array of services and weaker linkages with other programs and resources. These programs tended not to employ best practices in their policy and procedures and were described as more bureaucratic and rigid.

IMPLICATIONS

Although a single piece of federal legislation provides the framework for the service delivery models in all states and communities, there is remarkable variety in the organization of these various models. The law requires a comprehensive, coordinated interagency system of services, yet the specific details on the development of these systems is left to the discretion of states and communities. Therefore, diversity is not particularly surprising. Indeed, some flexibility in the law is desirable since communities aren't exactly alike -- they have different needs and resources. However, the provision of more specific

guidelines and mechanisms for implementation would be helpful for many individuals at the community level.

The service delivery models currently in use in some communities are more complex than models employed previously. In these communities leaders have designed a coordinated system of services composed of many programs. However, in five of the communities studied, the development of a coordinated system of services has yet to be achieved, despite the fact that LICC representatives report relatively high rates of coordination. Unfortunately, many community administrators and service providers in this country have received very little direction or guidance regarding what programs and resources should be included or how these resources should be organized. Clearly, individuals charged with developing a comprehensive, coordinated service system would benefit from more direction by means of policy and training.

First, localities need policy direction from state administrators regarding how to set up an interagency structure, since this task is not part of their previous discipline-specific training. A detailed interagency agreement which sets up the interagency structure and processes and includes a delineation of roles and responsibilities was extremely beneficial in the state (North Carolina) with the most coordinated service delivery models. State policy required the existence of a multi-agency structure at the local level that would determine eligibility for service delivery for individual children and families. The participation in this key phase of decision-making increased investment by representatives of other agencies and led to more cooperative decision-making with regard to other

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service system issues. In addition, each of the other state agencies (e.g., health, education, etc.) revised their policies to include: (1) references to the state interagency agreement, and (2) descriptions of aspects of the service delivery process, including the specific roles and responsibilities of the agencies in the service delivery process. In summary, this state had developed a *policy framework* which supported and mandated interagency coordination. The policy framework contained a detailed state interagency agreement along with compatible policies from all service provision agencies. These policies set up interagency structures which required cooperative decision-making on the individual child and family level and on the service system level as well.

Second, community administrators and service providers need *training* in how to perform the many tasks necessary for achieving the goal of developing a comprehensive and coordinated service system. Prominent among these tasks is taking an array of autonomous programs and resources and forming this disparate array into a holistic system. State policy makers could facilitate this task (e.g., program coordinators, the State Interagency Coordinating Council, etc.) by developing a list of programs (e.g., WIC, EPSDT, etc.) and resources (child care, YWCA, etc.) that should be considered when developing a comprehensive system. In another study of service delivery, the authors asked local administrators to identify the programs and resources that were "most often," "sometimes," and "rarely" used in service delivery. Harbin and West then categorized these programs and resources using a modification of categories developed by Trivette, Dunst, & Deal (1997). This was done in order to better

understand how comprehensive the array of resources was in each community. Perhaps a matrix such as this might be useful to state and local administrators (see Appendix at the end of the paper).

The process of *shared leadership* was important in the more coordinated service delivery models and supports earlier findings on the importance of a core group of leaders in the development of a system of services (Bennis, 1984; Dyer, 1987; Ends & Page, 1977; Harbin and McNulty, 1990). Therefore, local program administrators from several programs or agencies would benefit from training as an interagency team. Training should include: how to envision a system of services and resources; how to establish the service system, including which structures and mechanisms need to be in place; and what processes and strategies are useful to achieve these goals. Training should be undertaken on both an administrative and service provider level, focusing on areas including the identification and utilization of resources, and interagency team building.

There have been many changes in early intervention systems but overall, continued progress is necessary in most communities to meet the goal of a comprehensive and cohesive intervention system. The service delivery models presented in this paper may serve as a framework for state and community program administrators to use in identifying the type of service delivery system in place in their community, and may also provide a schema for system development and change. The importance of a comprehensive system for children and their families can be measured not simply in the number or range of services used by the child, but also in the benefits experienced by families: the

ease of access to needed services, the satisfaction in having needs met smoothly and in a timely fashion, and in the support afforded by a responsive, cohesive system.

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APPENDIX

Community Resources Classified by Level of Involvement
Community and System:_____

Resources/Services	Most often involved	Sometimes involved	Rarely involved	Never involved	Total
[illegible] EDUCATION					
Early Intervention					
Service Coordination					
Schools - Intermediate Unit					
Headstart					
Deaf/Blind School/Autism					
Developmental Disabilities/MR (other than EI)					
Private Providers					
Eval. Team/Agency					
Private Clinic (therapies)					
Univ. Prog./Hospital/Private Prog.					
CHILD CARE					
Respite					
Daycare/Preschool					
Resource/Referral					
[illegible] PROTECTION					
Child Protective Services					
Foster Homes					
[illegible] EDUCATION/ORIENTATION					
Resource/Referral for Services/Support					
Parent Training					
Employment Training					
Parenting Classes					
GED/Literacy					
MEDICAL/DENTAL					
Health Dept.					
Hospital/Clinic					
Medical/Health Program					
MDs/Private Providers					
EMOTIONAL					
Support					
Parent-to-Parent					
MH Dept.					
Alcohol/Substance Abuse					
[illegible] SOCIAL/RELIGIOUS					
Churches					
TRANSPORTATION					
Transportation					
FOOD/CLOTHING					
Food Bank					
WIC					
Social Services/Public Welfare					
ECONOMIC					
Family Support Program					
Social Services/Public Welfare					
PHYSICAL					
Housing/Shelter					
Housing (HUD)					
Social Services/Public Welfare					
RECREATION					
Recreation/Leisure					
LEGAL					
Advocacy					
Legal Services					
OTHER					
Training/Technical Assistance					
LICC					
County Comm./City Council					
Comm. Service Program/Civic Groups					
Groups/Councils					
State Ed. Dept.					
Business Sector					
Other					
Total					

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